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**Civil Engineering**

**POLLUTION PREVENTION PROGRAM**



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This instruction implements *Environmental Quality*. It gives the directive requirements for the Pollution Prevention Program. Unless otherwise noted, the guidance and procedures outlined in this instruction apply to all Air Force installations within the United States, its territories, and in foreign countries. Additionally, it applies to the Air Force Reserves, the Air National Guard, government owned-contractor operated facilities, and direct reporting units and field operating agencies not located on Air Force installations. For references, acronyms, and terms, see **Attachment 1**. Send all recommended changes to this publication, through channels, to HQ USAF/CEV, 1260 Air Force Pentagon, Washington, DC 20330-1260.

**SUMMARY OF REVISIONS**

This is the initial publications of AFI 32-7080, substantially revising AFR 19-15; Chief of Staff of the Air Force/Secretary of the Air Force Policy Memorandum on Using Recycled Products; and HQ USAF/CVA Policy Letter on Used Solvent Elimination Program.

## Chapter 1

### HOW TO USE THIS INSTRUCTION

**1.1. Background.** The procedures in this instruction are essential to ensure compliance with laws, directives, executive orders, and policies identified. If state and local pollution prevention standards are more stringent, then follow those standards.

**1.2. Concept.** This instruction is not intended to duplicate the reference documents identified in this instruction, but is intended to provide major commands (MAJCOM) and installations with a framework on how the Air Force does business to comply with these requirements according to AFPD 32-70. This AFI provides minimum requirements for standardization across the Air Force, thus providing great flexibility to MAJCOMs and bases on how to comply with pollution prevention standards. To maximize flexibility MAJCOMs have in implementing this instruction, the AFI divides "responsibilities" and "basic actions" into two separate components as shown in this chapter and subsequent chapters.

1.2.1. MAJCOM two-letter offices are responsible for identifying all necessary implementing guidance in their supplemental publication(s) to this AFI. The MAJCOM supplement must identify the specific "actors" who have implementing responsibility and include any "how to" implementing guidance needed to comply with this instruction.

### 1.3. Responsibilities:

#### 1.3.1. Headquarters United States Air Force (HQ USAF):

**1.3.1.1. SAF/MI.** The Assistant Secretary of the Air Force for Manpower, Reserve Affairs, Installations, and Environment promulgates and oversees policy for the Air Force Pollution Prevention Program.

**1.3.1.2. HQ USAF/CE.** The Civil Engineer develops policy, advocates for resources and oversees execution of the Air Force Pollution Prevention Program.

- Serves as one of three waiver approval authorities (approves/disapproves waiver applications for ozone depleting chemical purchases or to obtain ozone depleting chemicals from the Defense Reserve [Defense Logistics Agency Bank]).

**1.3.1.3. SAF/AQ.** The Assistant Secretary for Acquisition institutes pollution prevention, including hazardous materials minimization and management into the system acquisition process through policies, procedures, training, contract provisions, and Federal Acquisition Regulation changes.

- Provides policy/guidance to:
  - Reduce the use of hazardous materials in all phases of weapon systems from concept through production, deployment and ultimate disposal, find alternative materials/processes, and measure their life cycle costs (SAF/AQ Policy 93M-011, *Pollution Prevention on Air Force Acquisition Programs*, December 23, 1993).
  - Reduce the use of hazardous materials in all weapons systems by finding environmentally acceptable alternatives or processes (through research, development, testing, and evaluation) and integrate the alternatives into Air Force Technical Orders, Military Specifications (MIL-SPEC), and Military Standards (MILSTD).

- Acquire, distribute, and apply state-of-the-art pollution prevention technologies throughout the Air Force. (Where no alternative exists, conducts research and applies alternatives.)
- Implement affirmative programs for purchasing recycled materials, pollution prevention programs at government owned-contractor operated facilities, and hazardous material management initiatives in Air Force contracts.
  - Serves as one of three waiver approval authorities (approves or disapproves waiver applications for ozone depleting chemical purchases or to obtain ozone depleting chemicals from the Defense Reserve [Defense Logistics Agency Bank]).
  - Co-Chairs the Air Force Environmental Protection Committee Pollution Prevention Subcommittee.

**1.3.1.4. HQ USAF/LG.** The Deputy Chief of Staff for Logistics institutes pollution prevention, including hazardous materials minimization and management into logistics processes through policies, procedures, training.

- Provides policy/guidance to:
  - Reduce the use of hazardous materials in weapons systems by identifying the hazardous material and/or process to appropriate single manager so that alternative materials and/or processes may be researched, developed, tested, evaluated, and implemented into the proper technical orders, MILSPECs, and MILSTDs in accordance with SAF/AQ policy.
  - Reduce hazardous material use and waste generation at all installations (vehicle and aircraft maintenance, etc.).
  - Identify appropriate requirements to the single manager to acquire, distribute, and apply state-of-the-art pollution prevention technologies throughout the logistics community.
  - Ensure the proper receipt, storage, issue, labeling, transportation, and disposition of Air Force-owned hazardous substances.
    - Serves as one of three Waiver Approval Authorities (approves/disapproves waiver applications for ozone depleting chemical purchases or to obtain ozone depleting chemicals from the Defense Reserve [Defense Logistics Agency Bank]).
    - Co-Chairs the Air Force Environmental Protection Committee Pollution Prevention Subcommittee.

**1.3.1.5. HQ USAF/RE.** The Office of the Air Force Reserve implements pollution prevention for all Air Force Reserve installations.

**1.3.1.6. NGB/CF.** The National Guard Bureau implements pollution prevention policy for all National Guard Bureau installations.

### **1.3.2. Field Operating Agencies:**

**1.3.2.1. Air Force Center for Environmental Excellence.** The Air Force Center for Environmental Excellence is the lead Air Force agency in providing installations technical services supporting the Air Force pollution prevention program. Services include: technology transfer, program management, recycling, affirmative procurement, hazardous material/waste reduction programs, conference/workshop management, audits, and contracting support.

**1.3.2.2. Air Force Civil Engineering Support Agency.** The Air Force Civil Engineering Support Agency provides pollution prevention technical support to Air Force installations (non-weapon systems).

**1.3.3. Major Commands (MAJCOM).** This AFI provides MAJCOMs and bases the flexibility to manage their pollution prevention programs. Integrated pollution prevention management (procedures, education, training, and funding) at MAJCOM level is vital to successful program execution. MAJCOMs will develop supporting directives to implement this instruction, including specific "actors" who have implementing responsibility and "how to" guidance. All references to MAJCOMs in this AFI include the Air National Guard Readiness Center.

**1.3.4. Installations.** All Air Force installations must comply with the standards in this AFI.

**1.3.5. Other Agencies:**

**1.3.5.1. Single Managers.** The weapon system single managers will reduce the use of hazardous materials in all phases of weapon systems development from concept through production, deployment and ultimate disposal, find alternative materials/processes, and measure their life cycle costs. Additionally, the single managers will reduce the use of hazardous materials in existing weapons systems by finding environmentally acceptable alternatives or processes and integrating them into technical orders, MILSPECS, and MILSTDs.

**1.3.5.2. Defense Logistics Agency.** Sells and disposes Air Force hazardous material/hazardous waste except those categories listed in Department of Defense (DoD) 4160.21-M, *Defense Reutilization and Marketing Manual*, March 1991, with Change 1. Manages the Ozone Depleting Chemical Defense Reserve (Defense Logistics Agency Ozone Depleting Chemical Bank).

**1.3.5.3. HQ AFMC/EN.** HQ Air Force Materiel Command's Director of Engineering and Technical Management:

- Serves as the Air Force's Appropriate Technical Representative for ozone depleting chemical waiver-approval authority.
- Serves as the Ozone Depleting Chemical Waiver Focal Point and compiles waiver information.
- Produces ozone depleting chemical waiver reports as required by the National Defense Authorization Act for FY 1993 and DoD and Air Force policy.
- Disseminates waiver information and technical alternatives to organizations.
- Identifies research and development technology needs for the HQ Air Force Materiel Command Master Process.

## Chapter 2

### PROGRAM MANAGEMENT

**2.1. Overview.** The Air Force takes a leadership role in preventing pollution by reducing the use of hazardous materials and the release of pollutants into the environment. Preventing pollution requires a proactive and dynamic management approach because prevention achieves environmental standards through source reduction rather than "end-of-pipe" treatment. The hierarchy of actions to prevent pollution are: first and foremost, reduce/eliminate dependence on hazardous materials and reduce waste streams (source reduction), reuse generated waste and recycle waste not reusable (recycling), employ treatment; and only as a last resort disposal of wastes (end-of-pipe treatment). This hierarchy of actions must be fully integrated into day-to-day Air Force operations to build a strong pollution prevention program. MAJCOMs will be responsible for and will be given the latitude to develop strong cross-functional programs to ensure complete integration is achieved.

**2.2. Pollution Prevention Management Plans.** MAJCOMs will establish procedures to ensure installations develop and execute pollution prevention management plans to fulfill Pollution Prevention Act, DoD, and Air Force requirements as appropriate. The "Air Force Pollution Prevention Plan Prototype", included in the "Installation Pollution Prevention Program Guide", provides installations with the framework and road map requirements to layout a successful installation management plan. Installation plans will address the process required to run a pollution prevention program; the program required to fund pollution prevention projects; the road map to achieve Air Force pollution prevention goals; and the actions required to execute the program. These plans are based on recurring opportunity assessments designed to continually evaluate an installation's success in achieving pollution prevention at the highest level in the hierarchy of actions. Pollution prevention management plans will contain management strategies for the following program elements:

- Ozone depleting chemicals.
- EPA 17 industrial toxics.
- Hazardous wastes.
- Municipal solid waste.
- Affirmative procurement of environmentally friendly products.
- Energy conservation.
- Air and water pollutant reduction.

**2.2.1. Opportunity Assessments.** Installations will conduct opportunity assessments on a recurring basis. Opportunity assessments will assess all pollutant sources and determine opportunities to reduce or minimize waste streams throughout the process. Many installations have plans (e.g. waste analysis plan, solid waste management plan, storm water management plans, etc.) which identify waste streams on a particular installation. Use the information contained in these plans to support the opportunity assessments. These assessments will include all pollutant sources and examine the total waste generation by type and volume of content, and determine the most economical and practical option for reduction. Consideration must be given to cost/benefit analysis to evaluate opportunities for possible solutions. Consider waste minimization, including recycling, only if the waste stream cannot be reduced or eliminated.

### 2.3. Measurement. MAJCOMs must:

- Implement the Air Force goal of reducing total hazardous substance use and generated waste.
- Establish baselines and measure progress with the most current, accurate, and consistent data available.

#### 2.3.1. Baselines. Each MAJCOM must establish calendar year 1992 baselines for:

- Purchasing Class I ozone depleting chemicals.
- Purchasing EPA 17 industrial toxics.
- Disposing of municipal solid waste.
- Disposing of hazardous waste.

**2.3.1.1. Baseline Adjustments.** Baseline adjustments can be made with justification based on mission or industrial process changes. Submit justification of baseline adjustment to HQ USAF/CEV.

**2.3.1.2. Reporting.** Report progress quarterly on the four baseline areas and the affirmative procurement EPA Guideline Items via *Work Information Management System-- Environmental Subsystem* to HQ USAF/CEV (AFI 32-7002, *Environmental Information Management System*). These reports help higher headquarters measure an installation's performance against DoD and Air Force goals. Resource advocacy is based on goal attainment; therefore, the reports become essential information to support funds allocations.

**2.4. Hazardous Substance Management.** Each activity will select, use, and manage hazardous substances over their life cycle according to DoD Directive 4210.15, *Hazardous Material Pollution Prevention*, July 27, 1989. Hazardous substances procured, used, or stored by an Air Force activity will be inventoried and controlled according to *Superfund Amendments and Reauthorization Act Title III, Emergency Planning and Community Right-to-Know Act*, and Air Force requirements. AFI 32-7045, *Solid and Hazardous Waste Compliance*, outlines procedures for solid waste and hazardous waste management planning, training, collecting, and disposing. Solid waste, hazardous material and hazardous waste requirements for installations in foreign countries are given in AFI 32-7006, *Overseas Environmental Program in Foreign Countries*.

**2.4.1. Hazardous Material Control.** Installations will develop procedures to centrally control the purchase and use of hazardous materials. This concept minimizes hazardous material/ozone depleting chemical use through:

- Centralized control of hazardous substances purchased.
- Centralized issuing and distribution of hazardous substances.
- Purchase of hazardous substance in smallest unit of issue required for customer service.

**2.4.2. Toxic Release Inventory Reporting.** Each installation meeting threshold requirements of *Emergency Planning Community Right-to-Know Act*, Section 313, must file a Form R report to the Environmental Protection Agency for each toxic chemical meeting threshold requirements. **Note: This requirement does not apply to installations outside the customs territories of the United States.**

**2.4.3. Technical Orders, MILSPECs, and MILSTDs.** Technical data requirements established in technical orders, MILSPECs, and MILSTDs, require use of many hazardous substances. Some of these standardized documents require out-of-date technology and ultimately result in pollution of the

environment. The Single Managers must continue to actively pursue nonhazardous alternatives and change the technical orders, MILSPECs, and MILSTDs accordingly. Technical order changes can also be effected at the base and unit level by submitting an AFTO Form 22, **Technical Order System Publication Improvement Report and Reply**, in accordance with applicable directives. When chemicals prescribed by technical data cannot be obtained or have been banned by local authorities, the organization will notify the technical manager immediately. No one will use a chemical not specifically prescribed by technical data for the specific application. Research and Development, Test and Evaluation, or Tech Demos to support technical orders, MILSPECs, and MILSTDs changes should be accomplished through the single manager for that system.

**2.5. Research and Development.** AFI 63-188, *Civil Engineering Research, Development, and Acquisition*, provides guidance on identifying, validating, approving, prioritizing, and executing Air Force Civil Engineering Research, Development, and Acquisition pollution prevention program needs and inserting those needs into the Technology Master Process.

**2.6. Programming and Budgeting.** AFI 32-7001, *Environmental Budgeting*, provides guidance and procedures for identifying, developing, and processing current and future Air Force pollution prevention requirements. *Note: Find pollution prevention projects in the "program" section of each installation pollution prevention management plan.*

**2.6.1. Work Information Management System--Environmental Subsystem Pollution Prevention Module.** In addition to being identified in the installation pollution prevention management plan, load pollution prevention projects into the *Work Information Management System--Environmental Subsystem A-106 and Pollution Prevention Modules*. Forward programming records to the Air Staff to coincide with A-106, program objective memorandum, and budget submittal dates (include only Program Element 78054F eligible projects). Projects not included in the *Work Information Management System-Environmental Subsystem A-106 and Pollution Prevention Modules* will not be funded (RCS: HAF-CEV[Q]9423). These reports are designated emergency status code D. Discontinue reporting during emergency conditions.)

**2.6.2. Pollution Prevention Project Categories.** Break out pollution prevention projects into recurring and nonrecurring categories.

- Recurring projects include Operations and Services. Annual recurring "must do" services and projects associated with "keeping the gates open" such as management plans, baseline surveys, etc.
- Nonrecurring projects include: Level PI - *Ozone Depleting Chemical & Legal Requirements*, Level PII - *Meet Future Air Force Goals/Policies & Legal Requirements*, and Level PIII - *Beyond Air Force Goals & Legal Requirements*. For further details see AFI 32-7001.

## Chapter 3

### PROGRAM ELEMENTS

**3.1. Ozone Depleting Chemicals.** The Air Force goal is to help protect the earth's stratospheric ozone layer by eliminating dependence on chlorofluorocarbons, halons, and other substances. The Copenhagen-amended Montreal Protocol (1992) included an accelerated production phase out schedule with production to cease for halon by end of 1993 and chlorofluorocarbons, carbon tetrachloride, and methyl chloroform by the end of 1995. The Clean Air Act Amendments of 1990 and EPA rules limit United States consumption and production of chemicals listed in **Attachment 2**. Requirements for installations located in foreign countries are given in AFI 32-7006.

3.1.1. The following are actions MAJCOMs will take to help eliminate Air Force's dependence on and eliminate the release of ozone depleting chemicals:

- Prohibit the purchase of all Class I ozone depleting chemicals listed in **Attachment 2** (unless approved by a waiver).
- Prohibit the purchase of halon fire extinguishing equipment, and ozone depleting chemical air conditioning and refrigeration equipment for ground applications.
- Modify operating, training, and testing practices; and implement conservation measures, such as recovery, recycling, and reuse measures to reduce atmospheric discharges.
- Identify and give priority to ozone depleting chemical uses based on mission impact and act to:
  - Quickly convert mission-critical systems to non-ozone depleting chemicals.
  - Identify existing ozone depleting chemicals that could be reallocated.
  - Manage ozone depleting chemicals to meet mission needs, including mobilization and emergency requirements, during conversion of systems to non-ozone depleting chemicals substitutes.

**3.1.2. Reserves.** Inventory reserves may under certain circumstances be the only means available to ensure mission capability after production of a chemical has stopped. Reserves may not be used as a substitute for changing to non-ozone depleting practices, but are intended to provide additional time, as needed, to complete changeover. Reserves can extend the service life of ozone depleting chemical dependent equipment when used with conservation, recovery, and reuse.

**3.1.3. Waivers.** Effective June 1, 1993, organizations must apply for waivers prior to award of any contract which requires the use of a Class I ozone depleting chemical, to purchase new or recycled ozone depleting chemicals, or obtain ozone depleting chemicals from the Defense Logistics Agency Ozone Depleting Chemical Bank (Defense Reserve) for mission critical applications. Waivers permitted under these procedures are granted to develop and implement ozone depleting chemical alternatives, and not to allow "business as usual." Waivers are not required for government use of ozone depleting chemicals currently in stock on Air Force facilities. The waiver approval authorities are SAF/AQ, HQ USAF/LG, or HQ USAF/CE. When a waiver is needed, complete an Air Force ozone depleting chemical waiver application and submit the application through the proper channels.

**3.1.3.1. Waiver Application.** Waivers will require a plan, with milestones, for phasing out ozone depleting chemical use and must certify that non-ozone depleting chemical alternatives do not

exist, are not economically feasible, or that recycled ozone depleting chemicals cannot meet mission requirements.

**3.1.4. Reports.** These reports help higher headquarters measure an installation's performance against DoD and Air Force goals. Resource advocacy is based on goal attainment; therefore, the reports become essential information to support funds allocations. Additionally, with the production phase-out of ozone depleting chemicals, this information helps higher headquarters manage assets in times of contingency.

**3.1.4.1. Ozone Depleting Chemical Purchases Report.** An *Ozone Depleting Chemical Purchases Report*, RCS: HAF-CEV(Q)9424, will be released quarterly, via *Work Information Management System--Environmental Subsystem Pollution Prevention Module*, to the Air Staff within 45 days after the end of each quarter. These reports are designated emergency status code D. Discontinue reporting during emergency conditions.

**3.1.4.2. Halon Report.** AF Form 3521, **Halon 1301 Semiannual Report**, RCS: HAF-CEV(SA) 9101, and AF Form 3522, **Halon 1211 Semiannual Report**, RCS: HAF-CEV(SA)9102, will be sent by each MAJCOM to Air Force Civil Engineering Support Agency, Fire Protection Directorate by 1 August and 1 February of each year. The Air Force Civil Engineering Support Agency will collect data on Halons 1211 and 1301 uses and inventories and send a consolidated report to HQ USAF/CEV by 15 August and 15 February of each year. These reports are designated emergency status code C-2. Continue reporting during emergency conditions, precedence normal. Submit data requirements in this category as prescribed, or as soon as possible after submission of priority reports. Continue reporting during MINIMIZE.

**3.2. Environmental Protection Agency 17 Industrial Toxics.** The Air Force implements the EPA's 17 Industrial Toxics program as part of its Pollution Prevention Program. The EPA's 17 industrial toxics listed in **Attachment 2** are specifically targeted for reduction. The EPA 17 covers a broad spectrum of toxics, many of which are high in volatile organic compounds (i.e. fuels, paints).

*EXCEPTION:* Jet Fuels. Due to the high levels of certain EPA 17 Toxics in jet fuels, and the direct link between fuels and flying hours, the Air Force's EPA 17 reduction goals exempt jet fuels.

**3.2.1. Reports.** A *Hazardous Material Purchases Report*, RCS: HAF-CEV(Q)9424, will be released quarterly, via *Work Information Management System--Environmental Subsystem Pollution Prevention Module*, to the Air Staff within 45 days after the end of each quarter. These reports are designated emergency status code D. Discontinue reporting during emergency conditions. These reports will help higher headquarters measure an installation's performance against DoD and Air Force goals. Resource advocacy is based on goal attainment; therefore, the reports become essential information to support funds allocations.

**3.3. Hazardous Waste Minimization.** Minimize hazardous wastes from industrial, maintenance, and cleanup operations to the most economically practical extent. Installations will strive to reduce hazardous waste generation at the source. Hazardous waste requirements for installations located in foreign countries are given in AFI 32-7006.

**3.4. Municipal Solid Waste Management.** Installations will integrate cost-effective waste reduction and recycling programs into their municipal solid waste management program. Recycling of materials will include, but not be limited to: paper, plastic, metals, glass, used oil, lead acid batteries, and tires. AFI

32-7045 outlines procedures for municipal solid waste management planning, training, collecting and disposing. Municipal solid waste requirements for installations located in foreign countries are given in AFI 32-7006.

**3.4.1. Qualified Recycling Program.** Each Air Force installation, worldwide, will have a single qualified recycling program to serve all Air Force and tenant organizations occupying space on the installation, including leased space. Contracts covering government-owned, contractor-operated facilities, awarded after October 20, 1993, shall include provisions that obligate the contractor to participate with a DoD installation or establish their own qualified recycling program if there are no DoD installation qualified recycling programs that can incorporate the government owned, contractor operated facility. Where economically feasible and to the extent required by law, existing contracts covering government-owned, contractor-operated facilities should be modified to incorporate these qualified recycling program provisions. Each installation commander will be responsible for the organization and operation of the qualified recycling program, subject to the following requirements:

**3.4.1.1. Organization.** The qualified recycling program will be an umbrella organization, consisting of up to four separate recycling parts: an appropriated funded activity, a Services (nonappropriated funds) operation, an Army Air Force Exchange Service section, and a Defense Commissary Agency portion. The umbrella organization of the qualified recycling program will employ the following guidelines:

- **Functional Relationships.** All recycling parts (appropriated funded activities, Services, Army Air Force Exchange Service, and Defense Commissary Agency) will forward information on their programs to the qualified recycling program manager as requested.
- **Qualified Recycling Program Manager.** The designated qualified recycling program manager is the single point of contact for all aspects of the program including: solid waste reduction and reporting, composting, affirmative procurement reporting, environmental compliance, and education.

**3.4.1.2. Program Extent.** All organizations will actively participate in the qualified recycling program. Services, Army Air Force Exchange Service and Defense Commissary Agency are required to coordinate their recycling activities with the qualified recycling program manager and provide information requested by the qualified recycling program manager. Each facility, other than Army Air Force Exchange Service and Defense Commissary Agency facilities, will collect and segregate recyclable materials for collection by the qualified recycling program.

**3.4.1.2.1. Recycling.** Each installation will strive to recycle as much of the solid waste stream as possible. As a minimum, each qualified recycling program will recycle metals, plastic, glass, used oil, lead acid batteries, tires, high quality copier paper, cardboard, and newspaper. Each installation will conduct an annual opportunity assessment of the solid waste stream to identify source reduction potential and additional recyclable materials. Items excluded from recycling by Code of Federal Regulation, Part 32, Section 172.2 include:

- Precious metal-bearing scrap and items that may be used again for their original purposes or functions without any special processing (e.g., used vehicles, vehicle or machine parts, electrical components, and unopened containers of oil or solvent).
- Ships, planes, or weapons that must undergo demilitarization or mutilation before sale.
- Scrap generated from Defense Business Operations Fund activities.
- Bones, fats, and meat trimmings generated by a commissary store or exchange.

**3.4.1.2.2. Composting.** Each installation will, as appropriate, operate a composting program or participate in a regional composting program. As a minimum, the composting program will include yard wastes.

**3.4.1.3. Funding and Proceeds Distribution.** Recycling proceeds generated from the direct sale of nonappropriated fund owned (Services and Army Air Force Exchange Service), and Defense Commissary Agency material will be returned to the respective organization. Recycling proceeds returned to the installation from the Defense Reutilization Marketing Service and from direct sales of appropriated funded material will first be used to recover appropriated fund costs incurred managing and operating the qualified recycling program to include but not limited to: manpower, equipment, utility, and real property costs. After an appropriated funded activity cost reimbursement, the installation commander may use up to 50 percent of the remaining sale proceeds for pollution abatement, energy conservation, and occupational safety and health activities. Projects may be funded up to 50 percent of the cost of a minor construction project. Any remaining proceeds may be transferred to the Morale, Welfare, and Recreation Fund to be used for MWR activities. Accounting for recycling proceeds and the distribution there of shall be in accordance with AFR 177-102, chapter 29.

**3.4.1.4. Recurring Operating and Start-up Costs.** In accordance with AFI 32-7001 recurring operating (proceeds shortfall) and start-up costs for the recycling and composting programs will be programmed in Program Element Code 78054f. Operating costs are classified as a recurring requirement and start-up costs are identified as a Level PI requirement.

**3.4.2. Reports.** A municipal solid waste recycling and disposal report, RCS: HAF-CEV(Q)9424, will be released quarterly, via *Work Information Management System- -Environmental Subsystem Pollution Prevention Module*, to the Air Staff within 45 days after the end of each quarter. These reports are designated emergency status code D. Discontinue reporting during emergency conditions. These reports will help higher headquarters measure an installation's performance against DoD and Air Force goals. Resource advocacy is based on goal attainment; therefore, the reports become essential information to support funds allocations.

**3.5. Affirmative Procurement.** The Air Force will implement affirmative procurement programs for materials with recycled content according to Resource Conservation and Recovery Act Subtitle F (Section 6002) and Executive Order 12873, *Federal Acquisition, Recycling, and Waste Prevention*. Acquisition of recycled materials will be based on the EPA's procurement guidelines for purchasing recovered materials. As a minimum, MAJCOMs will establish procurement programs for all EPA Guideline Items. These items include: paper, retread tires, building insulation, cement/concrete containing fly ash, and re-refined oils.

3.5.1. Each activity will review and revise specifications for the designated items to allow procurement of products containing recovered materials.

3.5.2. Each procurement agency may design its own program, so long as it meets the requirements of Resource Conservation and Recovery Act. All affirmative procurement programs must have four elements:

- A preference program.
- A promotion plan.

- Procedures for obtaining and verifying estimates and certifications of the content of recovered materials.
- Annual review and monitoring.

3.5.3. Procurement agencies may choose not to purchase a guideline item containing recovered materials if:

- Guideline item's price is unreasonable.
- Applying minimum-content standards results in inadequate competition.
- Obtaining designated items results in unusual and unreasonable delays.
- Guideline items do not meet all reasonable performance specifications.

3.5.4. Reports. An affirmative procurement purchases report (dollar amounts), RCS: HAF-CEV(Q)9424, will be released quarterly, via *Work Information Management System--Environmental Subsystem Pollution Prevention Module*, to the Air Staff within 45 days after the end of each quarter. These reports are designated emergency status code D. Discontinue reporting during emergency conditions. These reports will help higher headquarters measure an installation's performance against DoD and Air Force goals. Resource advocacy is based on goal attainment; therefore, the reports become essential information to support funds allocations.

**3.6. Energy Conservation.** Installations will implement energy conservation as a means of pollution prevention according to Executive Order 12902, *Energy Efficiency and Water Conservation at Federal Facilities*.

JAMES E. McCARTHY, Maj General, USAF  
The Civil Engineer

## Attachment 1

### GLOSSARY OF REFERENCES, ABBREVIATIONS, ACRONYMS, AND TERMS

#### *References*

- Pollution Prevention Act of 1990, November 5, 1990
- Clean Air Act Amendments of 1990.
- Resource Conservation and Recovery Act
- Emergency Planning and Community Right-to-Know Act of 1986
- Superfund Amendments and Reauthorization Act of 1986
- National Defense Authorization Act For Fiscal Year 1993
- Public Law 97-214, 10 U.S.C. Section 2577, *Disposal of Recyclable Materials*.
- Executive Order 12902, *Energy Efficiency and Water Conservation at Federal Facilities*, March 8, 1994
- Executive Order 12856, *Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements*, August 3, 1993
- Executive Order 12873, *Federal Acquisition, Recycling, and Waste Prevention*, October 20, 1993
- DoD Directive 4210.15, *Hazardous Materials Pollution Prevention*, July 27, 1989
- DoD Instruction 7310.1, *Disposition of Proceeds from DoD Sales of Surplus Personal Property*, July 10, 1989
- Deputy Under Secretary of Defense (Environmental Security) Memorandum, *Policy for DoD Recycling*, September 28, 1993
- Chief of Staff of the Air Force/Secretary of the Air Force Action Memorandum, *Air Force Pollution Prevention Program*, January 7, 1993
- Chief of Staff of the Air Force/Secretary of the Air Force Action Memorandum, *Air Force Ban on Purchases of Ozone Depleting Chemicals*, January 7, 1993
- Chief of Staff of the Air Force/Secretary of the Air Force Action Memorandum, *Air Force Policy on Using Recycled Products*, September 25, 1992
- SAF/AQ Policy Memorandum 93M-011, *Pollution Prevention in Air Force Acquisition Programs*, December 23, 1993

#### *Abbreviations and Acronyms*

**AFI**—Air Force Instruction

**AFPD**—Air Force Policy Directive

**DoD**—Department of Defense

**EPA**—Environmental Protection Agency

**MILSPECS**—Military Specifications

**MILSTDs**—Military Standards

**OSD**—Office of the Secretary of Defense

**USAF**—United States Air Force

*Terms*

**Affirmative Procurement**—Required by Resource Conservation and Recovery Act Section 6002 and Executive Order 12873. Federal agencies must establish programs to encourage purchase of products containing recycled materials. Affirmative procurement programs must establish preference for products containing recycled material, must include a promotion plan to place emphasis on buying recycled, and must have procedures for obtaining and verifying estimates and certifications of recycled content.

**Alternatives**—Ways of reducing adverse effects of hazardous materials. Alternatives, as applied to hazardous material decisionmaking, include, but are not limited to, such possibilities as substituting less hazardous or nonhazardous material; redesigning a component such that hazardous material is not needed in its manufacture, use, or maintenance; modifying processes or procedures; restricting users; consumptive use; on-demand supply; direct ordering; extending shelf life; regenerating spent material; downgrading and reuse of spent material; use of waste as raw material in other manufacturing and combinations of those factors. Alternatives are to be analyzed in a "could cost" approach, considering what the lowest amount the decision could cost by overcoming barriers to getting the job done, while ensuring protection of human health and the environment.

**Baseline**—Quantified starting points from which progress is measured. For the purposes of this instruction, baselines are quantities of material purchased or generated over a specified period of time.

**Base Environmental Manager**—The organization (generally the Base Civil Engineer, Environmental Management Office) possessing the responsibility for environmental management and planning activities and for establishing base-specific policy for all aspects of environmental management.

**Cost Factors**—The expense and cost avoidance associated with hazardous material that may be reduced to monetary term, which includes future liability. Cost factors refer to direct and indirect costs attributable to hazardous material that are encountered in operations such as acquisition, manufacture, supply use, supply, use, storage inventory control, treatment, recycling, emission control, training, work place safety, labeling, hazard assessments, engineering controls, personal protective equipment, medical monitoring, regulatory overhead, spill contingency, disposal, remedial action, and liability.

**Economic Analysis**—An evaluation of the costs associated with the use of hazardous material and potential alternatives. An economic analysis is not a specific, step-by-step procedure that can be applied by rote to all cases of analyzing whether to use a hazardous material. Rather, organizations shall be guided by basic principles of economics and informed judgment.

**Environmentally Preferable**—Products or services that are less harmful to human health and the environment to use, reuse, operate and maintain, and dispose of in comparison with competing products or services of equal value.

**Functional Areas**—The operations or areas of responsibility that affect or are affected by the use of hazardous material. These areas include, but are not limited to, budget and fiscal planning, legal support, research and development, weapons systems acquisition and maintenance, material and performance specifications and standards, design handbooks, and technical manuals; maintenance and repair procedures, industrial processes, procurement policy, contracting provisions, new material identification,

public works operations, construction, management of munitions, chemical agents, propellants, medical and other personnel support, safety and occupational health, transportation, and logistics analysis; supply; warehousing; distribution; recycling; disposal; spill prevention, control, and cleanup; contaminated site remediation; staffing, education, and training; information exchange; public affairs; general administration; and oversight.

**Hazardous Material**—Any material that poses a threat to human health or the environment typically due to their toxic, corrosive, ignitable, explosive, or chemically reactive nature.

**Hazardous Substance**—Any substance or material that poses a threat to human health or the environment typically due to their toxic, corrosive, ignitable, explosive, or chemically reactive nature. More specific definitions may be found in various federal regulations which implement statutes (e.g. Hazardous Material Transportation Act, Comprehensive Environmental Response, Compensation and Liability Act).

**Hazardous Waste**—Any waste by-products of society that can pose a substantial or potential hazard to human health or the environment when improperly managed; possesses at least one of four characteristics (toxic, corrosive, ignitable, explosive, or chemically reactive) or are listed in Code of Federal Regulation, Part 40, Section 261.3 or applicable state or local waste management regulations.

**Life Cycle Costs**—An evaluation of the costs associated with the use of hazardous material and potential alternatives over the life of the investment or hazardous material. The analysis is not a specific, step-by-step procedure that can be applied by rote to all cases. Analysis shall be guided by basic principles of economics and informed judgment.

**Life Cycle of Hazardous Material**—The period starting when the use or potential use of hazardous material is first encountered and extending as long as the actual material or its after effects, such as a discarded residual in a landfill, have a bearing on cost. In the case of weapon system acquisition, the life cycle starts when the system is first envisioned. Effects of the use of hazardous material on later operations and maintenance are to be considered. This also holds true for a new use of a hazardous material. Where the hazardous material is already in general use, the life cycle starts when the material is first encountered by any organization that must deal with it.

**Mission Critical System**—A system whose operational effectiveness and operational suitability are essential to successful completion or to aggregate residual combat capability. If this system fails, the mission likely will not be completed. Such a system can be an auxiliary or supporting system, as well as a primary mission system.

**Municipal Solid Waste-Trash**—Wastes generated by administrative and domestic activities. Municipal solid waste does not include hazardous wastes.

**Opportunity Assessments**—A systematic procedure to identify and assess ways to prevent pollution by reducing or eliminating wastes.

**Ozone Depleting Chemicals and Ozone Depleting Substances**—These terms are used interchangeably. Chlorofluorocarbons, halons, and other substances that deplete the stratospheric ozone layer as classified by the Clean Air Act of 1990.

**Ozone Depleting Chemical Defense Reserve (Defense Logistics Agency Ozone Depleting Chemical Bank)**—The Defense Logistics Agency was assigned the mission of managing the Defense Reserve of ozone depleting chemicals to ensure that supplies for mission critical uses are available after production of these chemicals cease. The Defense Logistics Agency will provide central management for the receipt,

storage, and issue of ozone depleting chemicals through the Defense DepotRichmond. Ozone depleting chemicals sent to the Defense Reserve will be placed in an Air Force Account. To remove these chemicals from the Reserve, an approved waiver is needed.

**Ozone Depleting Chemical Appropriate Technical Representative**—The approved representative of the Waiver Approval Authority. The appropriate technical representative is HQ AFMC/EN or designated representative (outside the Single Manager chain of command) for all Air Force applications. The appropriate technical representative, a government official is assigned responsibility for performing an independent technical review of the ozone depleting chemical requirement to consider available options for substituting chemicals or alternate technology. The appropriate technical representative signs the certification statement in the waiver application.

**Ozone Depleting Chemical Waiver Approval Authority**—This official has the authority to approve waivers to allow the purchase or use of ozone depleting chemicals. The three waiver approval authorities for these interim procedures are SAF/AQ, HQ USAF/LG, and HQ USAF/CE.

**Ozone Depleting Chemical Suitable Substitute**—An alternative to ozone depleting chemical use through elimination, process modification or material substitution that is technically, economically and legally feasible.

**Pollution Prevention**—All the actions necessary, to include, use of processes, practices, products or management actions, that eliminate or reduce undesirable impacts on human health and the environment. These actions are a hierarchy of source reduction, recycling, treatment, and disposal or means "source reduction" and other practices that reduce or eliminate the creation of pollutants through increased efficiency in the use of raw materials, energy, water, other natural resources, and the protection of natural resources.

**Recycling**—The use, reclamation and reuse of a material. Use/reuse includes return of the recovered waste to the original process or when the waste is substituted for a raw material in another process. Waste reclamation includes processing of residual waste to recover a useful product and generation of waste material.

**Source Reduction**—Any practice which reduces or eliminates any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise residual waste generation at the source, usually within the generation process. The term includes equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, feed stock substitutions, improvements in feed stock purity, shipping and packaging modifications, improvements in housekeeping, maintenance, training, and management practices, increases in machinery efficiency, and recycling within a process.

**Technology Master Process**—A process integrating the various Research, Development, and Acquisition technology planning, development, transition, and application/insertion sub-processes within Air Force Materiel Command into a single end-to-end master process. The goal is to formulate, with full participation by all the stakeholders, an integrated list of technology development projects that is responsive to internal and external Air Force Materiel Command technology customers.

**Waste Minimization**—The reduction of the quantity or toxicity of a residual waste that is generated and subsequently processed, stored, or disposed; its reduction minimizes present and future threats to human health and the environment.

## Attachment 2 OZONE DEPLETING CHEMICALS AND INDUSTRIAL TOXIC PROJECT CHEMICALS

### A2.1. Ozone Depleting Chemicals:

#### *Section A--Class I Ozone Depleting Chemicals*

<b>Halocarbon Number</b>	<b>Molecular Formula</b>	<b>Name</b>
CFC-11	$\text{CCl}_3\text{F}$	Trichlorofluoromethane
CFC-12	$\text{CCl}_2\text{F}_2$	Dichlorodifluoromethane
CFC-113	$\text{C}_2\text{Cl}_3\text{F}_3$	Trichlorotrifluoroethane
CFC-114	$\text{C}_2\text{Cl}_2\text{F}_4$	Dichlorotetrafluoroethane
CFC-115	$\text{C}_2\text{ClF}_5$	Chloropentafluoroethane
Halon 1211	$\text{CF}_2\text{ClBr}$	Bromochlorodifluoromethane
Halon 1301	$\text{CF}_3\text{Br}$	Bromotrifluoromethane
Halon 2402	$\text{C}_2\text{F}_4\text{Br}_2$	Dibromotetrafluoroethane
CFC-13	$\text{CClF}_3$	Chlorotrifluoromethane
CFC-111	$\text{C}_2\text{Cl}_5\text{F}$	Pentachlorofluoroethane
CFC-112	$\text{C}_2\text{Cl}_4\text{F}_2$	Tetrachlorodifluoroethane
CFC-211	$\text{C}_3\text{Cl}_7\text{F}_3$	Heptachlorofluoropropane
CFC-212	$\text{C}_3\text{Cl}_6\text{F}_2$	Hexachlorodifluoropropane
CFC-213	$\text{C}_3\text{Cl}_5\text{F}_3$	Pentachlorotrifluoropropane
CFC-214	$\text{C}_3\text{Cl}_4\text{F}_4$	Tetrachlorotetrafluoropropane
CFC-215	$\text{C}_3\text{Cl}_3\text{F}_5$	Trichloropentafluoropropane
CFC-216	$\text{C}_3\text{Cl}_2\text{F}_6$	Dichlorohexafluoropropane
CFC-217	$\text{C}_3\text{ClF}_7$	Chloroheptafluoropropane
Carbon Tetrachloride	$\text{Cl}_4$	Tetrachloroethane
Methyl Chloroform	$\text{CHCl}_3$	Trichloroethane (all isomers)
Methyl Bromide		

#### *Section B--Class II Ozone Depleting Chemicals*

<b>Halocarbon Number</b>	<b>Molecular Formula</b>	<b>Name</b>
HCFC-12	$\text{CHCl}_2\text{F}$	Dichloromethane
HCFC-22	$\text{CHClF}_2$	Chlorodifluoromethane
HCFC-121	$\text{C}_2\text{HCl}_4\text{F}$	Tetrachlorofluoroethane
HCFC-122	$\text{C}_2\text{HCl}_3\text{F}_2$	Trichlorodifluoroethane
HCFC-123	$\text{C}_2\text{HCl}_2\text{F}_3$	Dichlorotrifluoroethane
HCFC-124	$\text{C}_2\text{HClF}_4$	Chlorotetrafluoroethane
HCFC-131	$\text{C}_2\text{H}_2\text{Cl}_3\text{F}$	Trichlorofluoroethane
HCFC-132	$\text{C}_2\text{H}_2\text{Cl}_2\text{F}_2$	Dichlorodifluoroethane
HCFC-133	$\text{C}_2\text{H}_2\text{ClF}_3$	Chlorotrifluoroethane
HCFC-141	$\text{C}_2\text{H}_3\text{Cl}_2\text{F}$	Dichlorofluoroethane
HCFC-142	$\text{C}_2\text{H}_3\text{ClF}_2$	Chlorodifluoroethane

#### **A2.2. EPA-17 Industrial Toxic Chemicals:**

1. Benzene
2. Cadmium and Cadmium Compounds
3. Carbon Tetrachloride
4. Chloroform
5. Chromium and Chromium Compounds
6. Cyanide & Cyanide Compounds
7. Lead & Lead Compounds
8. Mercury & Mercury Compounds
9. Methylene Chloride
10. Methyl Ethyl Ketone
11. Methyl Isobutyl Ketone
12. Nickel and Nickel Compounds
13. Tetrachloroethylene
14. Toluene
15. 1,1,1 - Trichloroethane
16. Trichloroethylene
17. Xylenes